

AMENDMENTS TO THE CLAIMS:

1. (Currently amended) An orientation division type liquid crystal display device comprising:

a pixel electrode substrate including pixel

electrodes, active elements, color filters and a first alignment layer covering said pixel

electrodes, said active elements and said color filters;

an opposing substrate including a common electrode

and a second alignment layer covering said common electrode and opposing to said alignment layer of said pixel electrode substrate;

a liquid crystal layer disposed between said first and second alignment layers;

wiring patterns related to said active elements of said pixel electrode substrate and arranged around said pixel electrodes; and

protrusions protruding from a surface of said pixel electrodes toward said common electrode and extending along said wiring patterns to form slopes,

a thickness of said liquid crystal layer between said pixel electrode and said common electrodes being substantially the same such that a first gap at edge portions of said pixel electrode becomes substantially the same as a second gap at the center portion thereof,

said liquid crystal layer being controlled such that, in an initial orientation of said liquid crystal layer, orientation of liquid crystal molecules of said liquid crystal layer is divided to a plurality of orientations by said slopes.

2. (Re-presented - formerly dependent claim #2) An orientation division type liquid crystal display device ~~as claimed in claim 1, wherein~~ comprising:

a pixel electrode substrate including pixel electrodes, active elements, color filters and a first alignment layer covering said pixel electrodes, said active elements and said color filters;

an opposing substrate including a common electrode and a second alignment layer covering said common electrode and opposing to said alignment layer of said pixel electrode substrate;

a liquid crystal layer disposed between said first and second alignment layers; wiring patterns related to said active elements of said pixel electrode substrate and arranged around said pixel electrodes;

protrusions protruding from a surface of said pixel electrodes toward said common electrode and extending along said wiring patterns to form slopes, said liquid crystal layer being controlled such that, in an initial orientation of said liquid crystal layer, orientation of liquid crystal molecules of said liquid crystal layer is divided to a plurality of orientations by said slopes; and

an underlying layer of said pixel electrodes extend
such that an apex portion of said protrusions protrude from said surfaces surface of said pixel electrodes toward the side of said common electrode and a black matrix layer is formed below said underlying layer to a thickness with equal to a distance which said black matrix layer protrudes from a surface of said color filter corresponding to said pixel electrode.

3. (Re-presented - formerly dependent claim #3) An orientation division type liquid crystal

display device ~~as claimed in claim 1, wherein~~ comprising:

a pixel electrode substrate including pixel electrodes, active elements, color filters and a first alignment layer covering said pixel electrodes, said active elements and said color filters;

an opposing substrate including a common electrode and a second alignment layer covering said common electrode and opposing to said alignment layer of said pixel electrode substrate;

a liquid crystal layer disposed between said first and second alignment layers;

wiring patterns related to said active elements of said pixel electrode substrate and arranged around said pixel electrodes;

protrusions protruding from a surface of said pixel electrodes toward said common electrode and extending along said wiring patterns to form slopes, said liquid crystal layer being controlled such that, in an initial orientation of said liquid crystal layer, orientation of liquid crystal molecules of said liquid crystal layer is divided to a plurality of orientations by said slopes; and

an underlying layer of said pixel electrodes extend such that an apex portion of said protrusions protrude from said surfaces of said pixel electrodes toward the side of said common electrode and, below said underlying layer, edge portions of adjacent ones of said color filters are overlapped such that said overlapped edge portions have a thickness with equal to a distance which said overlapped edge portion protrudes from a surface of said color filters.

4. **(Original)** An orientation division type liquid crystal display device as claimed in claim 1, wherein a tilting angle θ of said slope represented by $\theta = \tan^{-1} (H/L)$ where H is height of said slope and L is length of said slope in a horizontal direction, is 11° or more and a gap ratio (G_1/G_2) of a first cell gap G_1 between said opposing substrate and the highest portion of said protrusion to a second cell gap G_2 between said opposing substrate and other portions of said surface of said pixel electrode than said protrusion is in a range from 2/10 to 9/10.

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5. **(Original)** An orientation division type liquid crystal display device as claimed in claim 1, wherein an electrode opening portion is formed in or a slope portion protruding toward said pixel electrode is formed on said common electrode of said opposing substrate.

6. **(Original)** An orientation division type liquid crystal display device as claimed in claim 1, wherein said active elements are thin film transistors, respectively, to form an active matrix type liquid crystal display device.

7. **(Original)** An orientation division type liquid crystal display device as claimed in claim 1, wherein transparent electrode films forming respective said pixel electrodes are separated from said slopes of said protrusions surrounding said pixel electrodes.

8. **(Original)** An orientation division type liquid crystal display device as claimed in claim 1, wherein said first and second alignment layers are vertical alignment layers and liquid crystal molecules of said liquid crystal layer have a negative dielectric anisotropy such that the

molecules are oriented vertically toward said slopes.

9. (Original) An orientation division type liquid crystal display device as claimed in claim 1, wherein an electrode opening portion is formed in said common electrode of said opposing substrate corresponding to said pixel electrodes.

10. (Original) An orientation division type liquid crystal display device as claimed in claim 1, wherein a slope portion protruding toward said pixel electrode is formed on said common electrode of said opposing substrate correspondingly to said pixel electrodes.

11. (Original) A method for fabricating said orientation division type liquid crystal display device claimed in claim 1, comprising the steps of:
forming a step portion protruding from a surface of said color filters corresponding to said pixel electrodes toward the side of said common electrode on said wiring patterns; forming said protrusions by covering said color filters and said step portions with a common insulating film; and forming said pixel electrodes on said insulating layer.

12. (Original) A method as claimed in claim 11, wherein said step portions are formed of the same material as that of said black matrix such that gaps between adjacent color filters are filled thereby.

13. (Re-presented - formerly dependent claim #13) A method ~~as claimed in claim 11,~~
wherein for fabricating said orientation division type liquid crystal display device claimed in claim 1, comprising the steps of:

forming a step portion protruding from a surface of said color filters

corresponding to said pixel electrodes toward the side of said common electrode on said wiring patterns;

forming said protrusions by covering said color filters and said step portions with a common insulating film; and

forming said pixel electrodes on said insulating layer, said step portions ~~are~~ being formed by forming said color filter films such that edge portions of adjacent ones of said color filter films are overlapped.

14. (Original) A method as claimed in claim 11, wherein transparent electrode films of said pixel electrodes are formed such that said transparent electrode films are not overlapped on said slopes.

15. (Currently amended) An image display method for an orientation division type liquid crystal display device including an opposing substrate having a common electrode formed thereon, a pixel electrode substrate having pixel electrodes surrounded by protrusions having slopes on the side of said pixel electrodes, respectively, a liquid crystal layer provided between said opposing substrate and said pixel electrode substrate, gate electrodes, a gate wiring, drain electrodes, a drain wiring and a source electrode formed in peripheral portions of said pixel electrodes provided with pixel color layers as color filters, said slopes being formed on step portions formed by a black matrix or overlapped portions of edge portions of adjacent pixel color layers formed on at least ~~ones~~ one of said gate, drain and source electrodes and at least ~~ones~~ one of said gate wiring and said drain wiring, said method comprising the steps of:

performing an initial orientation control such that liquid crystal molecules on said pixel

electrodes between said opposing substrate and said pixel electrode substrate vertically toward said slopes; and

orientating liquid crystal molecules further evenly by applying a voltage across said liquid crystal layer when said device is driven to divide the orientation to a plurality of directions to thereby widen a viewing angle of pixel display in a pixel region.

REMARKS

Reconsideration of this application in view of the foregoing Amendment and the following Remarks is respectfully requested.

Specification:

The Examiner has requested the applicants' cooperation in correcting any errors in the specification of which the applicants may become aware.

In response, the applicants have made minor editorial corrections to improve the language usage at several locations: The three paragraphs beginning on page 5, line 23, to page 6, line 18; The paragraph beginning on page 8, line 23, to page 9, line 4; the paragraph on page 14, lines 8-10; and the paragraph on page 22, lines 6-10.

No new matter has been added.

35 U.S.C. 112, Second Paragraph Rejections: Claims 2-3

The Examiner has rejected claim 2 because it recites the limitation "said surfaces" in claim 1. The Examiner maintains that there is insufficient antecedent basis for this limitation (plural) in the claim.

In response, the applicant calls to the Examiner's attention that the applicant has rewritten